51. EPA OW Review and Regulation of Confined Animal Feed Operations (CAFOs) Is Directly Relevant to Whether RCRA Covers These Operations: EPA's OW has been involved with regulation of animal feed operations since the early 1970s. In the late 1990s, EPA worked with USDA on a unified national animal feed operations (AFO) strategy. That strategy aimed to achieve beneficial agricultural use of animal manure while minimizing water pollution. As stated in this strategy: *"Land application is the most common, and usually most desirable method of utilizing manure because of the value of the nutrients and organic matter."*[41] The strategy went on the state that land application in accordance with a comprehensive nutrient management plan would be expected to minimize water and public health risk. This strategy notes that USDA and EPA will continue to work with states to implement effective programs, whether they constitute regulatory programs for larger CAFOs such as the NPDES (National Pollutant Discharge Elimination System) or TMDL (Total Maximum Daily Load) programs or whether they are voluntary programs for smaller AFOs.

52. Over the last ten years, OW has continued to undertake extensive data collection on the water impacts of AFOs and continued to strengthen water regulatory programs that address CAFOs. One focus of this expansion was to extend coverage of the NPDES program to additional CAFOs that have the potential to adversely impact water including CAFOs that utilize dry land application of poultry litter. While the regulations focus primarily on larger AFOs as CAFOs, the NPDES permit regulations allow an authorized permitting authority, on a case-by-case basis, to designate any AFO as a CAFO site after determining that it is a significant contributor of pollution to waters of the US.[42]

53. EPA's data collection over the last ten years has led to further clarification in the recent CAFO NPDES regulations of activities that are considered agriculturally beneficial under the CWA as well as what constitutes a point source under the CWA. In its 2003 final rule, EPA stated: *"When manure or process wastewater is applied in accordance with practices designed to ensure appropriate agricultural utilization of nutrients, it is a beneficial agricultural production input. This fulfills an important agricultural purpose, namely the fertilization of crops, and it does so in a way that minimizes the potential for a subsequent discharge of pollutants to waters of the US. EPA recognizes that even when the manure, litter, or process wastewater is land applied in accordance with practices designed to ensure appropriate*

[41] USDA and USEPA, Unified National Strategy for Animal Feeding Operations, March 9, 1999.

[42] 40 CFR 122.23(c).

agricultural utilization of nutrients, some runoff of nutrients may occur during rainfall events, but EPA believes that this potential will be minimized and any remaining runoff can reasonably be considered an agricultural storm water discharge."[43] EPA also stated that CAFOs that did not meet the agriculturally beneficial utilization criteria qualified as point sources under the CWA and were prohibited from discharging pollutants without an NPDES permit. Smaller AFOs that were otherwise exempt from this federal CAFO rule could still be classified as a CAFO if their operations led to significant water pollution. EPA was also clear that smaller AFOs that complied with USDA voluntary nutrient management plans or state-required nutrient management plans would be considered agriculturally beneficial under the CWA.[44]

54. Importantly, application of poultry litter can still qualify as RCRA beneficial use even if the poultry litter use is not performed under a nutrient management plan or even if the litter application rate exceeds application rates specified in a nutrient management plan. State nutrient management plans, including some in Oklahoma, can limit application rates based on a single nutrient such as phosphorous. Such application limits are present for water protection reasons but do not address the independent question of whether the poultry litter includes other nutrients or soil enhancement properties that are deemed agriculturally beneficial. EPA's determination of RCRA beneficial use does not require a trade-off with minimizing adverse water quality impacts since EPA's CWA regulatory programs properly ensure waters are protected in situations where RCRA beneficial use can lead to an adverse water quality impact.

55. EPA Activities Under the Federal CWA Lend Further Support That Land Applied Poultry Litter Is Not A Solid Waste Under RCRA: As I explained earlier, the statutory definition of solid waste under RCRA excludes poultry litter and other animal manure used as a fertilizer or soil amendment. In addition, the statutory definition of solid waste under RCRA excludes point source discharges under the CWA. By issuing CAFO regulations under the CWA, EPA has made it clear that it intends to regulate water pollution from AFOs under the CWA and not under RCRA. This is the exact type of coordination that Congress required under RCRA

[43] 68 Federal Register 7176, 7197-7198 (February 12, 2003).

[44] EPA Office of Water, Producers' Compliance Guide for CAFOs, November 2003, pages 9-10. Also, on page 34 of this guide, EPA identifies those items considered minimum standards for a nutrient management plan. They include adequate storage capacity, proper management of dead animals, clean water management, preventing animals from contacting waters of the U.S., proper chemical handling, implementing conservation practices to control nutrient loss (i.e., BMPs), testing manure/litter/soil, descriptions of land application methods, and recordkeeping.

Section 1006. RCRA was intended to fill gaps; it was not intended to duplicate regulatory activities under the CWA.

APPLICATION OF RCRA TO POULTRY MANURE APPLIED AS FERTILIZER AND/OR SOIL AMENDMENT IN THE ILLINOIS RIVER WATERSHED (IRW)

56. Information on IRW Application Methods: The collection and application of poultry litter involves dry litter consisting of manure, straw, rice hulls, and sawdust. After collection, material that is not directly applied is stored in a pile in a manner that ensures it remains dry and not in contact with rainfall. Prior to application the material is analyzed for nitrogen, potassium, and phosphorous. It is land applied on land owned by the farmer or other nearby land, most frequently to grass crops used for cattle feed. From an economic standpoint, the litter substitutes for commercial fertilizer and soil amendment material. Moreover, the increased crop yields from the application of the litter lead to cost reductions in cattle feed. The litter is applied under an animal waste management plan (nutrient management plan) issued under the Oklahoma Registered Poultry Feeding Operations Act.[45] This nutrient management plan adopted by the Oklahoma Department of Agriculture, Food, and Forestry (ODAFF) is consistent with the nutrient management plan model designed by the US Department of Agriculture. Detailed information on the extensive requirements of poultry litter application under the Oklahoma Registered Poultry Feeding Operations Act and the Oklahoma Poultry Waste Applicator Certification Act is discussed in the January 14, 2008 deposition of Mr. Dan Parrish of ODAFF.

57. Opinion 1 - Application of Poultry Litter within the IRW is a Legitimate Beneficial Use Practice Under RCRA: As discussed in the initial sections of this affidavit, Congress and EPA excluded poultry litter which is returned to the soil as a fertilizer or soil conditioner from regulation as a RCRA solid waste. The previous paragraphs in this affidavit also discuss EPA's belief that poultry litter has routinely been beneficially used for its fertilizer and soil amendment value. As previously stated, EPA has developed a set of factors that it applies when considering whether various hazardous waste activities fall within RCRA hazardous

[45] Throughout the remainder of this affidavit, I have cited to relevant Oklahoma laws and regulations regarding poultry litter management. Arkansas also has issued laws and regulations that address proper application and management of poultry litter. For example, see the Arkansas Soil Nutrient Management Planner and Certification Act, the Arkansas Poultry Registration Act, the Arkansas Soil Nutrient Application and Poultry Litter Utilization Act and the regulations promulgated under these statutes in titles 19-22. Also see the August 2004 pamphlet entitled: "Environmental Requirements for Arkansas Poultry Growers," available on the Arkansas Department of Environmental Quality website.

waste regulations. Although these factors do not apply to non-hazardous secondary materials such as poultry litter, they are instructive by analogy in evaluating whether poultry litter in the IRW is beneficially used. The following bullets discuss these factors individually and in an integrated manner.[46] This analysis approach is similar to the analysis approach that I performed hundreds of times both during and after my EPA tenure as head of EPA's OSW:

- *Similarity of the poultry litter to an analogous raw material or product including whether its use is likely to release more hazardous constituents than the comparable raw material or product* – There are various types of commercial fertilizers and soil amendments that are available for use. There are also other secondary materials that are routinely used for fertilizer and/or soil amendment purposes. These include municipal sewage sludge as well as various industrial sludges. The same macro-nutrients (nitrogen, phosphorous, and potassium) present in commercial fertilizers and other secondary materials used for these types of beneficial uses are also present in poultry litter. Organic matter and certain micro nutrients present in poultry litter, such as calcium and magnesium, are the types of constituents present in various commercial or secondary material soil amendments.[47] Based on the types of comparative analyses that EPA performs in evaluating secondary materials against analogous commercial products, poultry litter would qualify as analogous to commercial fertilizer and soil amendment products.

  Plaintiffs in this case have suggested that poultry litter is not comparable with a commercial fertilizer product because the poultry litter is applied in situations where it is not needed. They argue that this over-application leads to releases to water. Today, poultry litter application in the IRW is controlled by a nutrient management plan. This plan specifically restricts nutrient application in areas where there is a nutrient surplus of certain poultry litter constituents. In fact, in nutrient-limited waters, these plans often restrict application rates not

[46] In providing a set of criteria to aid evaluation, EPA emphasized that the goal of this type of analysis was to determine whether the recycling practice was "product-like" or "waste-like." Thus, while EPA provided a set of appropriate hazardous waste recycling criteria to evaluate along with potential questions to examine for each criterion, EPA was careful to emphasize that the answers must be evaluated in a holistic fashion. In that regard, no single answer is determinative of whether the case-specific situation is "product-like" or "waste-like."

[47] There are numerous discussions on the nutrient value of poultry litter in reference documents listed in Tab B to this affidavit. One such document is an OSU Fact Sheet entitled Fertilizer Nutrients in Animal Manure, authored by Hailin Zhang. This fact sheet discusses the various nutrient and soil conditioner benefits of animal manure. It states: *"Nutrients in animal manure are as effective as commercial fertilizers for improving crop production if used properly."*

because higher application rates are not beneficial but to protect waters from a limited subset of beneficial nutrients.[48]

As stated above, EPA has determined that application in accordance with an approved nutrient management plan constitutes a beneficial agricultural practice under the CWA. Since RCRA beneficial use can be broader than what constitutes a beneficial agricultural practice under the CWA, application under a nutrient management plan would certainly qualify as RCRA beneficial use. Both Oklahoma and Arkansas employ nutrient management plans in the IRW. In Oklahoma, the nutrient management plan is required by Oklahoma regulations, is overseen by the ODAFF, and is consistent with USDA guidance.[49] At any point that ODAFF determines that a county or farm-specific nutrient management plan is inadequate, they can modify it or have the Natural Resources Conservation Service of USDA modify it. At any time that EPA determines that any medium-sized AFOs are significant contributors to water pollution, they can require these entities to obtain NPDES permits and adopt protective nutrient management plans.[50]

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[48] This is an important distinction. As discussed in Dr. Zhang's January 16, 2008 deposition, there are 16 important nutrients in poultry litter. Poultry litter also has a set of properties that can condition soil and enhance crop quantity and quality. He states that under the Oklahoma Registered Poultry Feeding Operations Act, beneficial use application rates can be limited based solely on soil phosphorous levels. While application rates higher than these levels are limited by the plan and the state law and regulations, in many fields, application rates above these levels can still provide nitrogen, micro-nutrient, or other soil conditioner value. Such application would constitute beneficial use under RCRA even if such use were limited under state or federal water authorities or other state laws.

[49] The nutrient management plan (i.e., a county specific plan and a site-specific animal waste management plan) is described in the Oklahoma Registered Poultry Feeding Operations Act and includes BMPs, record keeping requirements, requirements for testing and qualified applicators, education on waste management, and, application rate controls. The nutrient management requirements are also described in detail in the Natural Resources Conservation Services Code 590 Nutrient Management Practice Standard for Oklahoma. This document distinguishes between nutrient limited and non-nutrient limited waters and is utilized in the development of animal waste management plans. The Oklahoma Poultry Waste Applicator's Certification Act helps ensure that application is for beneficial use by licensing all applicators, requiring training for all applicators, requiring annual reporting by all applicators, requiring applicators to sample both fields and poultry litter prior to application, requiring applicators to follow the animal waste management plan, and requiring applicators to follow Oklahoma environmental laws.

In Arkansas, nutrient management plans (i.e., poultry litter management plans) are required in nutrient surplus areas. Plans must be developed by certified nutrient planners and litter must be applied by or overseen by a certified applicator.

[50] Similar to the federal regulation of CAFOs under the Clean Water Act, Oklahoma can also regulate poultry operations under the Oklahoma Concentrated Animal Feeding Operations Act. The State Board of Agriculture may make a case-by-case designation of an AFO as a CAFO under the Oklahoma statute if the operation is determined to be a significant contributor of pollution to waters of the state. (See Section 9-204.1)

With regard to a comparative analysis of the environmental release profiles of poultry litter and other recognized commercial products, both can result in some release to water and air even if applied at appropriate agricultural rates.[51] Moreover, failure to apply sufficient amounts of fertilizer and soil amendment can also result in soil erosion and water releases. In Oklahoma, the Oklahoma Registered Poultry Feeding Operations Act requires poultry feeding operations to follow specified Best Management Practices and have an Animal Waste Management Plan that addresses many topics including discharge and runoff of material from the application site.[52] The Act also requires applicators to undergo initial and annual training including training on protecting water quality.[53] Implementing regulations provide additional detailed requirements.[54] These state requirements are designed to protect water quality and therefore have the capability to restrict what would otherwise be considered RCRA beneficial use.

- *The degree of processing required to produce a finished product* – Poultry litter does not require any reclamation prior to use as a valuable fertilizer and soil amendment. EPA considers this factor to be of concern in situations where significant processing is needed to extract a small amount of valuable material that is mixed with a large amount of "waste-like" material that will not contribute to a beneficial use or reuse.

- *The value of the secondary material* – EPA considers this factor important to evaluate in situations where the economic value of the secondary material is negative. That is not the case here since there is general agreement that poultry litter has value as a fertilizer and soil amendment as I discuss in various EPA publications cited above. It not only results in reduced costs from purchase of commercial fertilizer, it leads to increased crop yields which reduces the feed costs for cattle operations. Oklahoma State University (OSU) runs an

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[51] For example, see Dr. Zhang's January 16, 2008 deposition, pages 91-92.

[52] See Section 10-9.7C of the Oklahoma Act which discusses Animal Waste Management Plans. As stated in previous footnotes, Arkansas also requires poultry litter management plans in nutrient surplus areas.

[53] Section 10-9.5F of the Oklahoma Act which covers the amount and content of education courses that operators are required to take.

[54] See Title 35, Chapter 17, Subchapter 5 of the Oklahoma regulations. (Attachment 2 to Mr. Dan Parrish's January 14, 2008 deposition.) The implementing regulations follow the statute and address required best management practices and require operators to have an animal waste management plan. The animal waste management plans have been prepared by the USDA Natural Resources Conservation Service (NRCS), generally on a county basis. These plans incorporate NRCS nutrient management practice standard 590. When a poultry operator applies for registration, they provide sufficient information so that they can be issued a site-specific animal waste management plan.

Oklahoma litter market which was funded by a grant from EPA and the Oklahoma Conservation Commission.[55] While there may be geographic constraints within which beneficial use of poultry litter is economical, there is no evidence that there is an absence of sufficient locations within this geographic area that could utilize the material consistent with the ODAFF nutrient management plans.

EPA also recognizes that many legitimate recycling operations may not make a profit when all costs of recycling are considered. For example, transportation, storage, and processing costs may offset profits. EPA has stated that positive economic cash flow is not required to achieve a RCRA beneficial use classification. Examples include appliance recycling, fluorescent lamp recycling, computer recycling, scrap asphalt recycling, glass recycling, etc.

- *The extent to which there is a guaranteed market for the end product* – Much of the poultry litter is utilized directly on the AFO operations on which it is generated. Since these operations typically raise cattle and grow various crops for cattle feed, they create their own market. In situations where there is excess poultry litter pursuant to the nutrient management plan, Oklahoma's witnesses have testified there is an active market.[56] In evaluating this factor, EPA looks for situations where the end product is stockpiled for long periods of time without being beneficially used, a situation not relevant to poultry litter.

- *The extent to which the secondary material is handled in a manner consistent with the product it replaces* – The Oklahoma Registered Poultry Feeding Operations Act itself and the nutrient management plan required by the implementing regulations impose certain management requirements on commercial fertilizers and soil conditioners and on poultry litter and other beneficially used secondary materials. The nutrient management plan also requires that the poultry litter be tested to ensure knowledge of nutrients and that records be kept on material use. The plan specifies nutrient application timing, methods, location restrictions, monitoring requirements, and application rates.[57] The Oklahoma Registered

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[55] In the January 16, 2008 deposition transcript of Dr. Zhang, pages 50-55, there is discussion of both the OSU-managed poultry litter market and the coordination with BMP, Inc. regarding litter transfer between Oklahoma and Arkansas. Dr. Zhang is a soil scientist with OSU.

[56] In the January 14, 2008 deposition testimony of Mr. Dan Parrish, page 152, he acknowledges that within the IRW specifically, there is a market for poultry litter based on reports submitted to ODAFF by licensed poultry applicators.

[57] NCRS, OK, Nutrient Management Code 590, March 2007. Also see 2004 version which is attached to Mr. Parrish's deposition as Exhibit 3.

Poultry Feeding Operations Act also specifies a series of Best Management Practices that must be followed for utilization of poultry litter.[58] As stated above, the detailed requirements are laid out in the Oklahoma implementing regulations and the animal waste management plans that are developed on a county basis and a registrant basis.

- *Any other relevant factors* – In this situation, there is extensive documentation of the value of poultry litter for both its fertilizer and soil amendment uses.[59] There is also evidence that certain properties of manures can be more beneficial than the analogous commercial products.[60] Another relevant factor is the extent of testing and documentation that is required under various statutes and regulations implemented by ODAFF. EPA has always considered this type of documentation indicative of a material that is "product-like."

While ongoing research will be able to continue to refine nutrient management plans to ensure they maximally reduce environmental impacts while also maximizing the value of the product, environmental releases associated with use under an approved nutrient management plan would certainly not constitute sham recycling. Neither would beneficial use that occurs outside of a nutrient management plan or use that exceeds application rates in an approved nutrient management plan as long as evidence exists to support the nutrient or soil conditioning benefits of the application. In other words, the existence of environmental releases is not determinative of whether the beneficial use or recycling is a RCRA waste management practice.

As I stated above, a determination of legitimate recycling does not require zero environmental releases. Moreover, an appropriate poultry litter application rate is determined by achieving application benefits comparable or better than those from analogous products, not by the extent of environmental releases. Both commercial fertilizer and soil amendment application and poultry litter beneficial use operations can result in environmental releases. Where necessary for

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[58] Section 10.9-7A and B of the Act.

[59] For example, see Risse, Cabrera, et al, Land Application of Manure for Beneficial Reuse, Animal Agriculture and the Environment: National Center for Manure and Animal Waste Management White Papers, 2006, pages 283-316. This document discusses that manure can increase both crop yield quantity and quality. It not only increases soil organic matter directly but by increasing crop root biomass. It also can neutralize soil acidity better than commercial fertilizers. Also see various Fact Sheets issued by the Oklahoma State University Cooperative Extension Service.

[60] See Mr. Dan Parrish's January 14, 2008 deposition, pages 216-218 and Exhibit 13. Also see page 113 and pages 117-119 of Mr. Zhang's January 16, 2008 deposition.

protection of health or the environment, various methods and authorities are available for controlling these releases including releases from beneficial poultry litter application.[61]

58. Opinion 2 - Because Application of Poultry Litter within the IRW is a Legitimate RCRA Beneficial Use Practice, It is Not A Solid Waste Under RCRA: As I presented above (see paragraphs 17-32), the 1976 RCRA statute and EPA's RCRA solid waste regulations clearly state that poultry litter that is beneficially used is not a solid waste under RCRA. The statute and its solid waste implementing regulations have been in place for almost 30 years.

59. Opinion 3 - Because Application of Poultry Litter within the IRW is a Legitimate RCRA Beneficial Use Practice, It is Not a Hazardous Waste Under RCRA: Plaintiff's submissions did not present any data that would suggest that poultry litter in the IRW meets EPA's hazardous waste criteria as defined in 40 CFR Part 261 nor did those submissions allege that poultry litter is a RCRA hazardous waste. As I presented above (see paragraph 34), the definition of "solid waste" that is used to evaluate whether a hazardous waste is RCRA-regulated during recycling does not apply in this situation where the poultry litter is not hazardous. Moreover, even if the poultry litter were hazardous, EPA included an exclusion from the definition of hazardous waste for poultry litter that is beneficially utilized.

60. Opinion 4 - Water Risks from Poultry Litter Beneficial Use, Including Risks to Public Health, Have Been Regulated by EPA Under the CWA. This is an Example of EPA's Efforts to Coordinate Its Programs As Directed By Congress: Plaintiff's filings in this case argue that it is appropriate to regulate poultry litter application in the IRW as solid waste disposal because of water impacts resulting from litter application in this geographic area. As I discuss above, the existence of water impacts are not determinative of whether poultry litter used in the IRW is a RCRA beneficial use; therefore, such releases are not determinative of whether or not land application of poultry litter is a RCRA solid waste. EPA goes to considerable effort to coordinate its work between various EPA offices as required by Congress in RCRA Section 1006. EPA has established a framework for addressing water quality impacts from AFOs under the CWA. EPA has addressed both point source discharges to water through its NPDES program and non-point discharges to water through its TMDL program. EPA has carefully evaluated AFOs

[61] Exhibit 8 to the January 14, 2008 deposition of Mr. Dan Parrish lists various Oklahoma authorities that can be utilized to ensure that beneficial use operations such as litter application are protective of heath and the environment. Some of these authorities are also applicable to releases from use of non-recycled products and raw materials that adversely impact health and the environment. Federal authorities including Clean Water Act authorities are also available.

and determined that they may require regulation as both point sources and non-point sources. Likewise, Oklahoma and Arkansas have also established laws and regulations to address unreasonable water impacts from poultry litter application and do not need to duplicate this coverage under their state RCRA programs.[62]

As discussed in EPA water quality reports, numerous agricultural practices are known to lead to adverse water impacts. EPA has never taken the position that the existence of water pollution de facto makes these practices subject to RCRA. Instead, EPA has used its CWA authorities to address these issues. Moreover, the CWA also has a citizen suit provision to address improper application of the Clean Water Act by EPA, States, or private entities.[63]

61. Opinion 5 - Oklahoma and Arkansas Regulations Do Not Include Beneficial Use of Poultry Litter As State Solid or Hazardous Wastes. Even If Oklahoma or Arkansas Were to Enact State Solid or Hazardous Waste Definitions That Included Beneficial Use of Poultry Litter, These Expanded Definitions Would Not Modify the Definitions Used in RCRA Section 7002:

- *Solid waste* - Oklahoma re-promulgated its solid waste regulations in 1996, revoking its earlier solid waste regulations. As of 1999, Oklahoma received approval from EPA to implement the Part 258 federal solid waste regulations that cover all solid waste facilities that accept either household hazardous waste or conditionally exempt small quantity generator hazardous waste.[64]

  Oklahoma's definition of solid waste is found in the state implementing statute, the Oklahoma Solid Waste Management Act, and the definition differs from the federal definition. *"'Solid waste' means all putrescible and nonputrescible refuse [emphasis added]*

[62] This includes the Oklahoma Registered Poultry Feeding Operations Act and the Oklahoma Poultry Waste Applicator Certification Act and rules promulgated under these laws. In his January 14, 2008 deposition Dan Parrish confirmed that one of the objectives of the poultry waste regulatory program in Oklahoma is to protect the waters, soil and air of the state. (page 15). These Oklahoma laws define "poultry waste" as poultry excrement, poultry carcasses, feed wastes or any other waste associated with the confinement of poultry from a poultry feeding operation. Oklahoma can also rely upon the Oklahoma Concentrated Animal Operations Feeding Act.

[63] Section 505 of the Federal Water Pollution Control Act.

[64] Prior to this time, Oklahoma had temporary approval for its Subtitle D program until June 30, 1994. That approval expired in 1994 because it was based on temporary Oklahoma rules that were equivalent to the federal 40 CFR Part 258 standards but were set to expire. Solid waste management facilities operating in states without EPA approval are required to comply with both federal and state solid waste regulations.

in solid, semisolid, or liquid form including, but not limited to, garbage, street refuse, dead animals, demolition wastes, construction wastes, solid or semisolid commercial and industrial wastes including explosives, biomedical wastes, chemical wastes, herbicide and pesticide wastes."[65] The definition also states that the term solid waste does not include scrap materials and used motor oil that meets certain conditions.

The Oklahoma definition of solid waste is tied to the term "refuse" which is not defined in its regulations. The dictionary meaning of "refuse" is: *"the worthless or useless part of something"; "trash, garbage"; "thrown aside or left as worthless."*[66] A plain English reading of the Oklahoma solid waste definition would not include beneficial utilization of poultry litter.[67] In fact a Frequently Asked Solid Waste Question on the ODEQ Website asks whether the Solid Waste Management Division regulates hog farms. The answer is *"No. Please direct questions relative to hog farms to Director, Water Quality Services."*[68] Moreover, in a recent deposition of Scott Thompson, Director of Oklahoma's Land Protection Division, Mr. Thompson agreed that his Division had never specifically identified poultry litter as a solid waste. In fact he agreed that agricultural waste was generally handled by the ODAFF.[69]

The Oklahoma solid waste regulations include a section on beneficial reuse that provides solid waste exemptions for certain materials that would otherwise be classified as Oklahoma solid waste.[70] Because there is no evidence that poultry litter that is beneficially land applied

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[65] 27A O.S. § 2-10-103.

[66] Merriam-Webster's Collegiate Dictionary, Tenth Edition, page 981.

[67] The RCRA House Committee Report from 1976, referenced earlier, discussed this issue. *"In addressing the problem, the Committee recognizes that Solid Waste, the traditional term for trash or refuse is inappropriate. The words solid waste are laden with false connotations. They are more narrow in meaning than the Committee's concern. The words discarded materials more accurately reflect the Committee's interest."(page 6240 of House Report No. 94-1491)*

[68] www.deq.state.ok.us/lpdnew/sw/swfaq.html.

[69] See January 4, 2008 deposition of Scott Thompson, pages 18-20.

[70] *"Upon request, and with supporting documentation, the DEQ may make a determination that a waste material is not a solid waste when it can be shown that the material is: (1) being used as an ingredient in an industrial process to make a product; (2) used as an effective substitute for commercial products; (3) being returned to the original process from which it is generated, without first being reclaimed. The material must be returned as a substitute for raw material feedstock and the process must use raw material as principal feedstock; or (4) in the possession of persons who actually posses the equipment necessary to process the material to comply with one of the above conditions. The DEQ may also make a reuse determination on other proposals based upon an evaluation of contemplated use of the material and potential effects on human health and the environment."* (See 252:515-1-7).

is a solid waste under Oklahoma's regulatory and statutory definitions, this section of the Oklahoma solid waste regulations would not apply to poultry litter utilization.

The Arkansas solid waste regulations use the same definition of "solid waste" that is utilized in the RCRA statute.[71] As discussed throughout this affidavit, this definition does not include poultry litter returned to the soil for fertilizer or soil amendment use.

- *Hazardous waste* – Plaintiffs have not argued that poultry litter is a hazardous waste in Oklahoma or Arkansas.[72]

Plaintiffs in this case argue that the use of poultry litter in the IRW constitutes a solid waste and therefore is covered by RCRA Section 7002. EPA does not delegate RCRA Section 7002 as part of its hazardous waste delegated program or its approval of state solid waste programs.[73] Even if

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[71] See Arkansas Department of Pollution Control & Ecology Regulation Number 22, Solid Waste Management, Section 22.102. EPA approved Arkansas's program to implement the Part 258 federal solid waste regulations in November 1993. See 58 Federal Register 59463 (November 9, 1993).

[72] Congress framed the RCRA hazardous waste program to operate as a state delegated program. EPA has reviewed and authorized Oklahoma's RCRA program. For the most part, Oklahoma has adopted EPA's hazardous waste regulations by reference. In a few areas, Oklahoma has received authorization for hazardous waste provisions that are more stringent than federal RCRA regulations. In some other areas, EPA has noted that Oklahoma's regulations are broader in scope than the federal RCRA program and these portions of Oklahoma's regulations are not part of the authorized RCRA program. (For example, see discussion in 49 Federal Register 50362 (December 27, 1984), 63 Federal Register 23673 (April 30, 1998), and 40 CFR Part 272 Subpart LL.) Specifically with regard to the definition of hazardous waste and the exemption of animal litter that is beneficially used, Oklahoma has adopted EPA's regulations by reference without change. Poultry waste that is beneficially used is not a RCRA hazardous waste under Oklahoma regulations.

EPA has also reviewed and authorized Arkansas's RCRA hazardous waste program, providing initial authorization for this program in January 1985 (see 50 Federal Register 1513). As stated in a December 8, 2000 document issued by Arkansas Pollution Control & Ecology Commission, Arkansas adopted the federal regulations on what materials constituted a RCRA hazardous waste verbatim in Arkansas Regulation 23. Poultry waste that is beneficially used is not a hazardous waste under Arkansas hazardous waste regulations.

[73] Section 3006 of RCRA addresses authorized State hazardous waste programs. Congress stated that interested and qualified States could receive authorization for hazardous waste regulations issued pursuant to Subtitle C, the hazardous waste management subchapter of RCRA. Section 7002 is not part of Subtitle C and therefore was never considered by EPA to be part of any state authorized hazardous waste program. EPA issued detailed rules describing the components of the authorized hazardous waste program in 40 CFR 271. RCRA Section 7002 is not covered. EPA also issued guidance documents on this same topic.

As part of the 1976 RCRA statute, Congress did not establish a similar state authorization program for the RCRA solid waste classification criteria regulations. With the enactment of HSWA, Congress required EPA to issue strengthened federal Subtitle D regulations for a limited set of RCRA solid waste facilities that accepted hazardous waste. Congress also provided EPA with enforcement authority for these new federal regulations in cases where States failed to implement them. In carrying out this Congressional mandate, EPA issued approvals to States that were capable of implementing these new Part 258 EPA

Oklahoma or Arkansas have statutory provisions equivalent to RCRA Section 7002, such provisions do not operate in lieu of RCRA Section 7002.

During my tenure running the RCRA program, we received citizen suit notice letters under RCRA Section 7002. We believed that the Congressional language in RCRA Section 7002 regarding solid and hazardous waste referred to the federal RCRA definitions of solid and hazardous waste. The RCRA definition of solid waste is provided in the statute and is discussed at the beginning of this affidavit. It is not replaced by a state definition even if that state definition were different or broader in scope than the statutory RCRA solid waste definition.[74]

62. Opinion 6 - Because Poultry Litter Applied in the IRW Is Not a RCRA Solid Waste or Hazardous Waste, It Is Not Covered by RCRA's Section 7002 Citizen Suit Provision: For all the reasons laid out in this affidavit, poultry litter applied in the IRW is not a RCRA solid waste or a RCRA hazardous waste. As a result, the RCRA Section 7002 authority is not applicable to this material.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 7, 2008.

Marcia E Williams
MARCIA E. WILLIAMS

regulations. These regulations are limited to facilities that accept household hazardous waste or small quantity generator hazardous waste and do not apply to landspreading of poultry litter.

[74] Although plaintiffs do not allege that poultry litter is a state hazardous waste, EPA also believed that RCRA Section 7002 was based on the hazardous waste definition authorized in the state-delegated RCRA program. Given the federal regulatory exemption of poultry litter used as a fertilizer from the federal hazardous waste definition, EPA would not authorize a state to include such poultry litter use as part of its RCRA-delegated hazardous waste program.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Los Angeles } ss.

On 2/7/08 (Date) before me, Victoria L. Doran (Name and Title of Officer (e.g., "Jane Doe, Notary Public"))

personally appeared Marcia E. Williams (Name(s) of Signer(s))

☐ personally known to me
☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

VICTORIA LYNN DORAN
Commission # 1513196
Notary Public - California
Los Angeles County
My Comm. Expires Sep 29, 2008

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

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Document Date: 2/7/08 Number of Pages: 32

Signer(s) Other Than Named Above: NONE

Capacity(ies) Claimed by Signer

Signer's Name: Marcia E. Williams

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☒ Individual
☐ Corporate Officer — Title(s): _____
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☐ Attorney-in-Fact
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Signer Is Representing: _____

Tab A

LECG

MARCIA E. WILLIAMS

LECG, LLC
2049 Century Park East, Suite 2300
Los Angeles, California 90067
Tel. (310) 712-0151
Fax (310) 556-0766
mwilliams@lecg.com

PROFESSIONAL EXPERIENCE

CONSULTING EXPERIENCE (1991-Present)

- LECG, LLC
  Director, March 2001 – Present

- PA CONSULTING GROUP, INC.
  Member of Management Committee, October 2000 – March 2001

- PHB HAGLER BAILLY, INC.
  Sr. Vice President, October 1998 – October 2000

- PUTNAM, HAYES & BARTLETT
  Managing Director, August 1997 – October 1998

- WILLIAMS & VANINO
  Founder and President, 1991-1997

Ms. Williams has extensive experience with the development and application of environmental regulations and with the design and implementation of environmental management programs, which result in the effective integration of environmental objectives into organizational business strategies, performance goals and culture. She has managed projects ranging in size from $50,000 US to $2,500,000 US. Her practice focuses on the following four areas:

Regulatory Expert and Litigation Support

Ms. Williams has served as a consulting and testifying expert in the areas of solid and hazardous waste regulations and practices, chemical and pesticide regulation, regulatory risk management, the regulatory process, the historical evolution of environmental knowledge and regulations, and environmental management systems. Cases have involved insurance recovery (fortuity issues and reasonableness of cleanup remedies), private-party cost recovery for environmental cleanup costs, toxic tort litigation, criminal and civil enforcement actions, contract disputes, SEC disclosure litigation, and NAFTA claims. A listing of testimony is provided. Ms. Williams has also been engaged in over 25 additional matters that have not resulted in testimony. In addition to serving as an expert, Ms. Williams has managed litigation support projects including fact-based analyses of underlying case facts, chronologies of relevant regulatory history, comparative analyses of other enforcement actions, development of case settlement proposals, and development of case settlement strategies.

Environmental Performance Assessment and Improvement

Ms. Williams has performed over 50 environmental, health, and safety management system projects in virtually every industrial sector as well as in public sector agencies. These projects have evaluated the ability of existing systems to achieve EHS performance objectives, have enhanced existing systems, and have also built systems or system segments from the ground up. Areas of focus include effective translation of complex EHS requirements into job-based specifications, management commitment and leadership, performance metrics, performance verification, management of change, accountability, job-based training, effective communication, organizational structure and resources, materials management, and contractor/vendor management. Ms. Williams has lectured and written articles on EHS management system approaches and has provided expert testimony on EHS management system issues.

Strategic Environmental Counseling and Policy Support

Ms. Williams has performed numerous consulting engagements designed to address specific complex compliance, permitting, and remedial challenges including strategies for interacting with government entities. She has also performed environmental policy support to clients in the areas of impact analysis of upcoming environmental regulation and legislation, assessment and integration of acquisitions, closure or divestiture of facilities, facility siting, regulatory and legislative strategy to achieve business objectives, benchmarking of industry practices, and enforcement settlement strategy.

Environmental Business Risk/Opportunity Evaluation and Mitigation

Ms. Williams has performed environmental business risk assessments for corporations on individual facilities/businesses and individual product lines. These assessments identify environmental vulnerabilities that can impact business objectives including the ability to run the business as it is currently run, expand it according to planned expansion strategy, and stay competitive within the industry over time. These assessments can also identify business opportunities. Projects not only identify the business risks/opportunities along with their sources but also frame the potential size, timing, and probability associated with the risks/opportunities as well as implementation recommendations. In addition, Ms. Williams has performed projects, which develop internal processes for companies to identify environmental business risks on an ongoing basis.

CORPORATE EXPERIENCE (1988-1998)

- BROWNING-FERRIS INDUSTRIES, INC., 1988-1991

  Divisional Vice President
  Environmental Policy and Planning, BFI (1988-1991)
  - As Chair of Environmental Policy Committee for the second largest waste management company in the world, with $3 billion in annual revenues, built environmental management framework, developed environmental policies for operating subsidiaries and communicated company environmental accomplishments.

- Crafted major market development strategies by analyzing and forecasting environmental trends, e.g., landfill markets in the 1990s, oil and gas waste management markets and California recycling markets and composting markets.
- Helped operating managers resolve environmental conflicts arising in permit hearings, siting decisions, regulatory interpretations and enforcement actions.
- Established proactive environmental regulatory and legislative program, saving substantial resources and allowing company to advance legislation or regulatory change on critically important issues such as interstate movement of waste, rate regulation, solid waste planning and disposal fees.

Vice President
Environmental and Regulatory Affairs, CECOS International, BFI Subsidiary (1988-1989)
- Developed zero defect environmental plan for 14 hazardous waste operating sites.
- Managed all aspects of compliance, audit, permitting, and remedial program.

Project Director
Los Angeles, Recycling Program, BFI (1990-1991)
- Designed program to expand BFI's recycling operations in the Los Angeles market.
- Employed inventive approaches to develop local markets, such as first-of-its-kind conference on "Recycling and Minority Business."

- SAFETY-KLEEN CORPORATION, 1995-1998

Board of Directors
- Provided oversight on corporate government and strategic direction.
- Chaired environmental committee of the Board.

GOVERNMENT EXPERIENCE - U.S. Environmental Protection Agency (1970-1988)

Director
Office of Solid Waste (September 1985 to February 1988)
- Directed 250 person, $40 million annual program to implement the 1984 Hazardous and Solid Waste Amendments, which required issuing over 70 new, controversial rules in three years. *Received EPA's distinguished career award.*
- Regularly represented EPA before Congress, states and trade associations as well as to senior government officials in Japan, Australia and India.

Deputy Assistant Administrator
Office of Pesticides and Toxic Substances (December 1983 to September 1985)
- Managed day-to-day operations of OPTS, a 1,400+ person organization responsible for regulating pesticide and chemical use. Received President's Meritorious Rank Award for significant improvements in the office's workings.
- Led U.S. delegation on international chemical activities for more than three years.

Deputy Director and Acting Director
Office of Toxic Substances (January 1981 to December 1983)

- Managed 400-person office responsible for new and existing chemical reviews (including regulations on PCBs and asbestos under Toxic Substances Control Act. *Received William A. Jump Award for Excellence in Public Administration.*
- Chaired U.S. delegation to OECD Chemicals Group.

Director, Special Pesticide Review Division
Office of Pesticides (April 1979 to January 1981)

- Developed major agency actions to cancel or restrict pesticides such as EDB, toxaphene, lindane and wood preservatives. Crafted the process for re-registering all pesticides.

Branch Chief, Statistical Evaluation Staff
Office of Planning and Evaluation (March 1978 to April 1979)

- Built from scratch the first high-level, centralized statistical evaluation office in EPA, which became instrumental in reviewing all major agency regulations for data quality.

Branch Chief
Office of Mobile Source Air Pollution Control (September 1972 to March 1978)

- Supervised Inspection/Maintenance program and development of test procedures and emission factors for light and heavy-duty vehicles, including fuel economy driving test. *Awarded EPA Bronze Medal.*

Mathematician
Office of Research and Development (September 1970 to September 1972)

- Performed statistical analyses and mathematical modeling to support ambient air quality standards.

OTHER RELEVANT EXPERIENCE

- Member, Relative Risk Reduction Strategies Committee, Science Advisory Board, U.S. Environmental Protection Agency (1989–1990).
- Consultant to USEPA Science Advisory Board (1995-1998)
- Member, Science and Technology Research Priorities for Waste Management in California, prepared for California Integrated Waste Management Board (1992).
- Participant, Landfill Capacity and Siting Issues in California, California Integrated Waste Management Board (1994).
- Member, National Academy of Sciences Subcommittees on hazardous waste, hazardous materials, and groundwater contamination (1992-1998)
- Testimony before the US Congress on 12 occasions from 1983-1995.
- EPA's National Advisory Committee for Policy and Technology, Subgroups on Wastes and Chemicals (1993-1996)

PUBLICATIONS

- "Integrated Municipal Solid Waste Management," *Handbook of Solid Waste Management*, McGraw-Hill (1994).
- "Landfills: Old Remedy with New Challenges," Forum for *Applied Research and Public Policy* (Spring 1992).
- "Why-and How to-Benchmark for Environmental Excellence," *Total Quality Environmental Management* (Winter 1992/93).
- "Strategies for Managing Present and Future Waste," presented in *Risk Analysis* (1991).
- "Rethinking RCRA for the 1990's," *Environmental Law Reporter* (February 1991) 10,068–10,075.
- "Using Cross-functional Teams to Integrate Environmental Issues into Corporate Decisions," Proceedings of January 1991 Corporate Quality/Environmental Management Conference.
- "Environmental Protection Agency Actions to Stimulate Use of Biotechnology for Pollution Control and Cleanup," *Environmental Biotechnology: Reducing Risks from Environmental Chemicals Through Biotechnology*, edited by G. Omenn (Plenum Press, 1988), 373–380.
- "Policy Improvements to Encourage Soil and Groundwater Remediation," *Groundwater and Soil Contamination Remediation: Toward Compatible Science, Policy and Public Perception*, Report on a Colloquium Sponsored by the National Research Council Water Science and Technology Board (1990) 195–205.

EDUCATION

B.S., Math and Physics, *Summa Cum Laude*, Phi Beta Kappa, DICKINSON COLLEGE, 1968

Graduate Work, Math and Physics, UNIVERSITY OF MARYLAND, 1969

EXPERT TESTIMONY

- United States of America v. Recticel Foam Corporation, United States District Court, Eastern District of Tennessee, Greenville, Case # CR-2-92-78
- Brunswick Pulp & Paper Co. v. Marcus E. Collins, Sr., Revenue Commissioner, and the State of Georgia, Superior Court for the County of Glynn, State of Georgia, Case # 9400646
- Aluminum Company of America, et al. v. Accident & Casualty Insurance Co, et al., Superior Court of Washington (King County), Case # 92-2-28065-5
- Mark W. Gregory, et al. v. Chemical Waste Management, Inc., United States District Court, Western District of Tennessee, Case # 93-2343-4BRO
- Williston Basin Interstate Pipeline Co. v. Rockwell International Corporation, Montana Thirteenth Judicial District Court

- CIBA-GEIGY Corp. v. Liberty Mutual Insurance Company, Superior Court of New Jersey, Law Division, Union County, Case # L-97515-87
- Cornerstone Realty v. Dresser-Rand, United States District Court, Connecticut, Case # 394CV01560 (DJS)
- Adams et al. (Simmons) v. Chevron et al., United States District Court for the Southern District of Texas, Houston Division, Case # H-96-1462
- Ormet Primary Aluminum Corporation v. Wausau Insurance Companies, et al., Court of Common Pleas, Monroe County, Ohio, Case # 95-103
- Reserve Environmental Services, Inc. v. Detrex Corp. et al., U.S. District Court for the Northern District of Ohio (Eastern Division), Case # 4: 93-CV-1157.
- Southern Pacific Rail Corporation v. Certain Underwriters at Lloyd's London, et al., Los Angeles Superior Court, Case Number: BC 154722
- Dana Corporation v. Hartford Accident & Indemnity Company, et al. No. 49D01-CP-0026.
- Metalclad Corporation v. The United Mexican States, ICSID Case No. ARB(AF)/97/1
- Maertin v. Armstrong World Industries, U.S. District Court for the District of New Jersey, Civil Action No. I-95-cv 02849 (JBS)
- Inland Paperboard and Packaging, Inc. vs. Affiliated FM Insurance Company, et al., Cause No. 49D05-9708-CP-1142 (State of Indiana)
- PPG Industries, Inc. v. Accident Casualty Insurance Company of Winterhur, et al., Dkt. No. HUD-L-1845-95 (N.J. Super. Ct., Law Div., Hudson County)
- Re-Claim Environmental v. State of Louisiana, Proceedings under Louisiana APA, La. R.S. 49:950 et seq., Consolidated Compliance Order & Notice of Potential Penalty WE-CN-99-0042
- Matheny, et al.v. International Paper Co., et al., Civil Action No. CV-99-804
- Appeal of Empire Management Systems, Inc., ASBCA No. 46741, Under Contract No. F44650-88-C-0004; April, 2001
- United Technologies Corp., et al. v. American Home Assurance Company, Docket No.: 292-CV-00267 (JBA)
- Hillary Thomas, et al., v. Conoco, Inc., et al., No. 98-5567 (14th Judicial District, Parish of Calcasieu, State of Louisiana)
- Redlands Tort Litigation, RCV 31496, Superior Court of the State of California for the County of San Bernardino
- State of New Mexico, et al. v. General Electric Company, et al., Case Nos. CV 99-1118 BSJ/KBM and CV 99-1254 BSJ/LFG (consolidated by Order on 6/14/00), U.S. District Court for the District of New Mexico

- Associated Indemnity Corporation and The American Insurance Company vs. The Dow Chemical Company, No. 99 CV 76397, United States District Court for the Eastern District of Michigan, Northern Division
- Eli Lilly and Company v. The Aetna Casualty and Surety Company, et al., State of Indiana, County of Marion in the Marion Superior Court, Cause No. 49D12 0102 CP 000243
- Lockheed Martin Idaho Technologies Company v. Lockheed Martin Advanced Environmental Systems, Inc. and Lockheed Martin Corporation v. EG&G Idaho, Inc., Cause No. CIV98-0316-E-BLW (D. Idaho)
- Carol Antolovich, et al. v. Brown Group Retail, Inc., et al., District Court, City and County of Denver, State of Colorado, Case Number: 00CV 1021 dated February 12, 2003 and March 28, 2003
- Alcoa Inc. v. Accident and Casualty Insurance Co., et al., Superior Court of the State of Washington, County of King, Case No. 92-2-28065-5 (SEA-Consolidated) 2003 dated April 9 and 10, 2003 and May 28, 2003
- City of Modesto v. Dow Chemical Co., et al., Superior Court of the State of California in and for the County of San Francisco, Case Nos. 999345 and 999643 dated November 19 and 20, 2003
- USEPA Region 5 v. General Motors Automotive – North America, Docket No. RCRA-05-2004-0001
- Allgood, et al. v. General Motors Corporation, United States District Court, Southern District of Indiana, Indianapolis Division, Case No. IP02-1077-C-H/K
- King, et al. v. Hamilton Sundstrand Corporation, District Court, Adams County, Colorado, Case No. 02 CV 2018, dated March 31, 2006
- Drummond, et al. v. E.I. Du Pont de Nemours and Company, Circuit Court of Harrison County, West Virginia, Civil Action No. 05-C-148-1, dated November 27, 2006
- Perrine, et al. v. E.I. Du Pont de Nemours and Company, Circuit Court of Harrison County, West Virginia, Civil Action No. 04-C-296-2, dated June 5-6, 2007
- Texas Disposal Systems Landfill, Inc. v. Penske Truck Leasing Co., et al., District Court of Hays County, Texas, 207th Judicial District, Case No. 98-0159, dated August 16, 2007
- Angeles Chemical Company v. McKesson Corporation, et al., U.S. District Court, Central District of California, Case No. 01-10532 TJH (Ex), dated October 22-26, 2007

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Documents Considered in Preparation of Expert Opinions

In the Matter re:
State of Oklahoma v. Tyson Foods, Inc., et al.
Case No. 05-cv-329-GKF(SAJ)

Depositions (and Exhibits) Received	DATE
Deposition Transcript of Scott Thompson	1/4/2008
Deposition Transcript of Dan Parrish with Exhibits	1/14/2008
Deposition Transcript of Hailin Zhang with Exhibits (Ex. 10-11; 16-18)	1/16/2008

Documents Received and Reviewed	DATE
Oklahoma CAFO Act Excerpt	
Land Application of Manure for Beneficial Reuse (Risse, L. M.; Cabrera, M. L.; Franzluebbers, A. J.; Gaskin, J. W.; Gilley, J. E.; Killorn, R.; Radcliffe, D. E.; Tollner, W. E.; Zhang, H.)	10/15/2006
U.S. Dept. of Agriculture, Natural Resources Conservation Service: Nutrient Management (Acre) – Code 590	3/2007
State of Oklahoma's Motion for Preliminary Injunction and Integrated Brief in Support Thereof with Exhibits	11/14/2007

Documents Identified by LECG	DATE
Various Code of Federal Regulations (CFR) citations	
Various portions of the Oklahoma State University website on Oklahoma's Poultry Waste Management Regulations, Statutes, Litter Market	
EPA Fact Sheet on Nutrient Management and Fertilizer	
Various information obtained from CNMP Watch website	
Various information obtained from USDA Agricultural Research Service website	
Various information obtained from www.arkansaswater.org	
Various information obtained from University of Arkansas, Division of Agriculture, Cooperative Extension Service website.	
www.oar.state.ok.us/oar/codedoc02.nsf/frmMain?OpenFrameSet&Frame=Main&Src=_75tnm2shfcdnm8pb4dthj0chedppmcbq8dtmmak31ctijujrgcln50ob7ckj42tbkdt374obdcli00_	
Oklahoma Concentrated Animal Feeding Operations Act	
Oklahoma Registered Poultry Feeding Operations Act, Oklahoma Poultry Waste Transfer Act, Oklahoma Poultry Waste Applicators Certification Act	
Agricultural Code – Animal Feeding Operations § 9-204.1 Licensure	
Selected Oklahoma Solid Waste Regulations	
Selected Oklahoma Hazardous Waste Regulations	
Oklahoma Statutes Citation; Title 27A Environment and Natural Resources; Chapter 2 – Oklahoma Environmental Quality Code; Article X – Solid Waste Management Act; Section 2-10-103: Definitions	
Oklahoma Statutes Citation; Title 27A Environment and Natural Resources; Chapter 2 – Oklahoma Environmental Quality Code; Article VI – Water Quality; Section 2-6-101: Definitions	
University of Arkansas Division of Agriculture, Cooperative Extension Service, presentation, www.arnatural.org/environmental_management/water/nutrient_mgmt/planners_guide/Chapter1.ppt	

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Case No. 05-cv-329-GKF(SAJ)

Documents Identified by LECG	DATE
Arkansas Rules Title XXII Governing the Soil Nutrient and Poultry Litter Application and Management Program	
Arkansas Rules Title XXI Governing the Arkansas Nutrient Management Applicator Certification Program	
Arkansas Rules Title XX Governing the Arkansas Nutrient Management Planner Certification Program	
Arkansas Rules Title XIX Governing the Arkansas Poultry Feeding Operations Registration Program	
Arkansas Petition to Initiate Rulemaking and to Adopt Emergency NPDES Rules for CAFOs	
OSU Fact Sheet: Manure and Animal Waste Management Program	
OSU, Protect the Illinois River From Nutrient Pollution	
Tabler, G.T., (University of Arkansas Poultry Science Department), Nutrient Management: Air and Water Quality Issues	
39 FR 5704, Effluent Limitations Guidelines	2/14/1974
EPA, Third Report to Congress: Resource Recovery and Waste Reduction	9/3/1975
EPA, Report to Congress: Using Solid Wastes to Conserve Resources and Create Energy	2/27/1975
U.S. House of Representatives Report No. 1491, 94th Congress, 2d Session, Part I, reprinted in 1976 U.S.C.C.A.N. 6238	1976
Toxic Substances Control Act	1976
41 FR 11458, NPDES Rule on Concentrated Animal Feeding Operations	3/18/1976
Congressional Record - Senate	6/30/1976
Congressional Record – House	9/27/1976
Congressional Record - Senate	9/30/1976
42 FR 31116, ANPRM for Classification of Solid Waste Disposal Facilities	7/5/1977
43 FR 4942, NPRM for Classification of Solid Waste Disposal Facilities	2/6/1978
43 FR 12726, Notice of Hearings	3/27/1978
43 FR 23679, Draft Report on Improving Environmental Regulations	5/31/1978
44 FR 45065, Guidelines for Development and Implementation of State Solid Waste Management Plans	7/31/1979
44 FR 53438, Final Rule; Criteria for Classification of Solid Waste Disposal Facilities and Practices	9/13/1979
U.S. EPA, Environmental Impact Statement: Criteria for Classification of Solid Waste Disposal Facilities and Practices	12/1979
45 FR 33084 Final Rule, Hazardous Waste Identification Regulations	5/19/1980
Oklahoma Solid Waste Management Plan	12/16/1980
U.S. EPA, Classifying Solid Waste Disposal Facilities Guidance Manual	1/1981
46 FR 29064, Open Dump Inventory	5/29/81
Solid Waste Disposal Practices: Open Dumps Not Identified – States Face Funding Problems	7/1981

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In the Matter re:
State of Oklahoma v. Tyson Foods, Inc., et al.
Case No. 05-cv-329-GKF(SAJ)

Documents Identified by LECG	DATE
46 FR 47048, Guidelines for Development and Implementation of State Solid Waste Management Plans and Criteria for Classification of Solid Waste Disposal Facilities and Practices	9/23/1981
48 FR 14472, Proposed Rule; Hazardous Waste Management System, Definition of Solid Waste	4/4/1983
U.S. EPA, Inventory of Open Dumps	5/1983
U.S. EPA, RCRA Final Authorization Guidance Manual	6/10/1983
Congressional Record – House	8/4/1983
Congressional Record - House	10/6/1983
Congressional Record – House	11/3/1983
U.S. House of Representatives Report, No. 98-198, Part 1 (1983), 5576, reprinted in 1984 U.S.C.C.A.N.	1984
U.S. EPA, Report to Congress: Nonpoint Source Pollution in the U.S.	1/1984
U.S. EPA, Inventory of Open Dumps	5/1984
U.S. EPA, RCRA Online, Determining Whether State Hazardous Waste Requirements Are Broader Or More Stringent Than The Federal RCRA Program (RO 12236)	5/21/1984
Congressional Record – Senate	7/25/1984
49 FR 50362, Oklahoma: Decision on Final Authorization of State Hazardous Waste Management Program	12/27/1984
50 FR 614 Final Rule, Hazardous Waste Management System, Definition of Solid Waste	1/4/1985
50 FR 1513, Notice of Final Determination on Arkansas' Application for Final Authorization	1/11/1985
U.S. EPA, Inventory of Open Dumps	6/1985
50 FR 41952, Solid Waste Disposal; Inventory of Open Dumps	10/16/1985
U.S. EPA, RCRA Online, State Program (RO 12724)	9/1/1986
U.S. EPA, Subtitle D Study Phase I Report	10/1986
52 FR 16982 Proposed Rule, Burning of Hazardous Waste in BIFs	5/6/1987
53 FR 519 Proposed Rule, Hazardous Waste Management System, Definition of Solid Waste	1/8/1988
U.S. EPA, Report to Congress: Solid Waste Disposal in the United States – Vol. 1 (Draft Final)	1/28/1988
U.S. EPA, Report to Congress: Solid Waste Disposal in the United States – Vol. 2	10/1988
U.S. EPA, RCRA Online, Recycling of Electroplating Sludges (F006) For Cement/Aggregate Manufacture (RO 11426)	4/26/1989
Council of Environmental Quality, Twentieth Annual Report	1990
News & Analysis, Is RCRA Enforceable by Citizen Suit in States With Hazardous Waste Authorized Programs? (Babich, A.)	9/1993
58 FR 59463, Arkansas; Final Determination of Adequacy of State/Tribal Municipal Solid Waste Permit Program	11/9/1993
58 FR 68643, Oklahoma; Final Determination of Adequacy of State/Tribal Municipal Solid Waste Permit Program	12/28/1993
Arkansas Pollution Control & Ecology Commission, Solid Waste Management Regulation 22	4/6/1995

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State of Oklahoma v. Tyson Foods, Inc., et al.
Case No. 05-cv-329-GKF(SAJ)

Documents Identified by LECG	DATE
U.S. EPA, National Water Quality Inventory Report to Congress (Section 1)	1996
Zhang, OSU, Production Technology Sheet: Animal Manure Can raise Soil pH	2/1998
63 FR 23673, Oklahoma: Final Authorization and Incorporation by Reference of State Hazardous Waste Management Program	4/30/1998
U.S. EPA, Background Report on Fertilizer Use, Contaminants and Regulations	1/1999
U.S. EPA, Unified National AFO Strategy for Animal Feeding Operations	3/9/1999
64 FR 30434, Adequacy of State Permit Programs Under RCRA Subtitle D (Direct Final Rule)	6/8/1999
64 FR 30465, Adequacy of State Permit Programs Under RCRA Subtitle D (Proposed Rule)	6/8/1999
U.S. EPA, Profile of the Agricultural Livestock Production Industry	9/2000
Arkansas Pollution Control & Ecology Commission, Hazardous Waste Management Regulation 23	12/8/2000
U.S. EPA, Environmental Assessment of Proposed Revisions to the NPDES and Effluent Guidelines for CAFOs	1/2001
66 FR 2959, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations; Proposed Rule	1/12/2001
Zhang et al, OSU, Fact Sheet: Poultry Litter Quality Criteria	9/2002
Zhang, OSU, Fact Sheet: Fertilizer Nutrients in Animal Manure	7/2002
Zhang, OSU, Fact Sheet: Managing Phosphorus from Animal Manure	7/2002
Zhang, OSU, Fact Sheet: Using Poultry Litter as Fertilizer	7/2002
Zhang, OSU, Fact Sheet: Using Stockpiled Feedlot Manure as Fertilizer	7/2002
Zhang, OSU, Fact Sheet: Selecting Forages for Nutrient Removal From Animal Manure	7/2002
Zhang, OSU, Fact Sheet: How to Get a Good Soil Sample	7/2002
U.S. EPA, Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations	12/2002
68 FR 7175, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs); Final Rule	2/12/2003
U.S. EPA, Producers' Compliance Guide for CAFOs, Revised Clean Water Act Regulations for Concentrated Animal Feeding Operations (CAFOs)	11/2003
State of Arkansas, Statewide Solid Waste Management Plan	11/1/2003
Oklahoma Department of Environmental Quality, Solid Waste FAQ	2/4/2004
Arkansas DEQ, Environmental Requirements for Arkansas Poultry Growers	8/2004
U.S. EPA, Managing Manure Nutrients at Concentrated Animal Feeding Operations	8/2004
U.S. EPA, Handbook for Developing Watershed Plans to Restore and Protect Our Waters	10/2005
Oklahoma Soil Amendment Act and Rules	11/1/2005
Arkansas Pollution Control & Ecology Commission, Solid Waste Management Rules 22	2/24/2006
Doye, OSU, Fact Sheet: Broiler Production: Considerations for Potential Growers	3/2006

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In the Matter re:
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Case No. 05-cv-329-GKF(SAJ)

Documents Identified by LECG	DATE
U.S. EPA, Fact Sheet: Concentrated Animal Feeding Operations Proposed Rulemaking	6/2006
71 FR 37744, Proposed Rule, Revised NPDES and Effluent Limitation Guidelines for CAFOs in Response to Waterkeeper Decision	6/30/2006
Zhang, OSU, Fact Sheet: Sampling Animal Manure	6/2007
U.S. EPA, RCRA State Authorization Status for Oklahoma	9/30/2007
Carreira, R. I., How Far Can Poultry Litter Go?, Journal of Agricultural and Applied Economics	12/2007
Smolen, OSU, Fact Sheet: Phosphorus and Water Quality	12/2007